

CLAIMS

What is claimed is:

1. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, and a pair of air intake members each having an air intake hole fixed on each end of the hollow cylindrical filter so that the hole communicates with the air passage.

2. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member having an air intake hole fixed on one end of the hollow cylindrical filter so that the hole communicates with the air passage, and a cap fixed on the other end of the hollow cylindrical filter.

3. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, a pair of air intake members each having an air intake hole fixed on each end of the hollow cylindrical filters so that the holes communicate with the air passage, and a supporting rod with which the air intake members are coupled at both ends of the supporting rod in the air passage.

4. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member having an air intake hole fixed on one end of the hollow cylindrical filter so that the air intake hole communicates with the air passage, a cap fixed on the other end of the hollow cylindrical filter, and a supporting rod with which the intake member and the cap are coupled at both ends of the supporting rod in the air passage.

5. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel and each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, and a pair of air intake members fixed on both ends of the hollow cylindrical filters,

wherein each of the air intake members is constructed as a box having a passage for air inside it and having holes to be inserted in the upper and lower ends of each hollow cylindrical filter in one side plate of the box and having an air-supply hole in one of the other side plates of it.

6. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel and each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, and a pair of air intake

members fixed on both ends of the hollow cylindrical filters,

wherein each of the air intake members is constructed as a box having a passage for air inside it and having holes to be attached at the upper and lower ends of each hollow cylindrical filter in one side plate of the box and having air supply holes in two opposite side plates of it.

7. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel and each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member fixed on the ends of one side of the hollow cylindrical filters, and a cap fixed on the other ends of them,

wherein each of the air intake members is constructed as a box having a passage for air inside it and having holes to be attached at either the upper or lower end of each hollow cylindrical filter in one side plate of the box and having an air supply hole in one of the other side plates of it.

8. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel and each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member fixed on ends of one side of the hollow cylindrical filters, and a cap fixed on the other ends of them,

wherein each of the air intake members is constructed as a box having a passage for air inside it and having holes to be attached at either the upper or lower end of each hollow cylindrical filter in one side plate of the box and having an air supply hole in each of the two opposite side plates of it.

9. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, a pair of air intake members fixed on both ends of the hollow cylindrical filter, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filter and said air intake members,

wherein each of the air intake members has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted into and fixed in a through-hole made in any plate of the casing except the front plate of it, and wherein the casing has a slit in its front plate for air to exit along the central longitudinal line of the plate, and wherein guide plates are furnished on both sides of the slit.

10. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow

portion, an air intake member fixed on one end of the hollow cylindrical filter, a cap fixed on the other end of the hollow cylindrical filter, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filter, said air intake member, and said cap,

wherein the air intake member has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted and fixed into the through-hole made in any plate of the casing, except the front plate of it, the casing has a slit in its front plate for air to exit along the central longitudinal line of the plate, and wherein guide plates are furnished on both sides of the slit.

11. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, a pair of air-intake members fixed on each end of the two ends of the hollow cylindrical filter, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filter and said air-intake members,

wherein each of the air intake members has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted and fixed in the through-hole made in any lateral plate of the casing, wherein the casing has two slits, one in its front plate and another in its back plate, for air to exit along the central longitudinal line of each plate, and wherein guide plates are furnished on both sides of each of the slits.

12. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air-intake member fixed on one end of the hollow cylindrical filter, a cap fixed on the other end of the hollow cylindrical filters, and a box-shaped hollow casing having a space for air to exit from the air passage that houses said hollow cylindrical filter, said air intake member, and said cap,

wherein each of the air intake members has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted and fixed in the through-hole made in any lateral plate of the casing, wherein the casing has two slits, one in its front plate and another in its back plate, for air to exit along the central longitudinal line of each plate and its back plate, and wherein guide plates are furnished on both sides of each of the slits.

13. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape that has an air passage in the central hollow portion, a pair of air intake members fixed on both ends of the hollow cylindrical

filter, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filter and said air intake members,

wherein each of the air intake members has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted and fixed in the through-hole made in either back plate or in one lateral plate of the casing, wherein the casing has two slits, one in its front plate and the other in the other lateral plate of it, for air to exit along the central longitudinal line of each plate, and wherein guide plates are furnished on both sides of each of the slits.

14. An air-purifying device comprising a hollow cylindrical filter made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member fixed on one end of the hollow cylindrical filter, a cap fixed on the other end of the hollow cylindrical filters, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filter, said air intake member, and said cap,

wherein each of the air intake members has an air supply tube that extends from it, that communicates with the air passage of the hollow cylindrical filter, and that is inserted and fixed in the through-hole made in either back plate or in one lateral plate of the casing, wherein the casing has two slits, one in its front plate and the other in the other lateral plate of it, for air to exit along the central longitudinal line of each plate, and wherein guide plates are furnished on both sides of each of the slits.

15. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel and each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, a pair of air-intake members fixed on both ends of the hollow cylindrical filters, and a box-shaped hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filters and said air intake members,

wherein each of the air intake members is big enough to bind the multiple hollow cylindrical filters and has an air-supply tube that extends from it, that communicates with the air passages of the hollow cylindrical filters, and that is inserted and fixed in the through-hole made in any lateral plate of the casing, and wherein the casing has two slits, one in its front plate and the other in its back plate, for air to exit along the central longitudinal line of each plate, and wherein guide plates are furnished on both sides of each of the slits.

16. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel, each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member fixed on ends

of one side of the hollow cylindrical filters, a cap fixed on the other ends of them, and a box-shaped hollow casing having a space for air to exit from the air passage that houses said hollow cylindrical filters, said air intake member, and said cap,

wherein each of the air-intake members is big enough to bind the multiple hollow cylindrical filters and has an air supply tube that extends from it, that communicates with the air passages of the hollow cylindrical filters, and that is inserted and fixed in the through-hole made in any lateral plate of the casing, and wherein the casing has two slits, one in its front plate and the other in its back plate, for air to exit along the central longitudinal line of each plate and its back plate, and wherein guide plates are furnished on both sides of each of the slits.

17. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel, each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, a pair of air intake members fixed on both ends of the hollow cylindrical filters, and a box with a protruding portion shaped as a hollow casing having a space for air to exit from the air passage that houses said hollow cylindrical filters and said air intake members,

wherein each of the air intake members is big enough to bind the multiple hollow cylindrical filters and has an air supply tube that extends from it, communicates with the air passages of the hollow cylindrical filters, and that is inserted and fixed in the through-hole made in either back plate or one lateral plate of the casing, wherein the casing has two slits, one in its front plate and another in its lateral plate of the protruding portion, for air to exit along the central longitudinal line of each plate, and wherein guide plates are furnished on both sides of each of the slits.

18. An air-purifying device comprising multiple hollow cylindrical filters positioned in parallel, each being made by forming a filter media in a cylindrical shape having an air passage in the central hollow portion, an air intake member fixed on ends of one side of the hollow cylindrical filters, a cap fixed on the other ends of them, and a box with a protruding portion shaped as a hollow casing having a space for air to exit the air passage that houses said hollow cylindrical filters, said air intake member, and said cap,

wherein each of the air intake members is big enough to bind the multiple hollow cylindrical filters and has an air supply tube that extends from it, that communicates with the air passages of the hollow cylindrical filters, and that is inserted and fixed in the through-hole made in either back plate or one lateral plate of the casing, the casing has two slits, one in its front plate and another in its lateral plate of the protruding portion, for air to exit along the central longitudinal line of each plate, and

wherein guide plates are furnished on both side of each of the slits.

19. An air-purifying device according to any one of claims 5, 6, 9, 13, 15, and 17, wherein the air intake members are coupled at both ends of a supporting rod in the air passage of the hollow cylindrical filter.

20. An air-purifying device according to any one of claims 7, 8, 10, 12, 14, 16, and 18, wherein the intake member and the cap are coupled at both ends of a supporting rod in the air passage of the hollow cylindrical filter.